

Notes and Observations



Zophodia convolutella Hbn.
Chestfield, Kent, 30.iv.1983. Alar expanse 30mm.
Figure enlarged approximately x 2.5.

ZOPHODIA CONVOLUTELLA (HUEBNER) (LEP.: PYRALIDAE) NEW TO BRITAIN. — On the 30th April 1983, I took a specimen of a striking phycitid moth at m.v. light in my garden at Chestfield, Kent which Mr. D. Carter (British Museum, Natural History) kindly identified as *Zophodia convolutella* (Huebner). According to Roesler (1973, *Microlepidoptera Palaearctica: Phycitinae*), this species has a wide distribution abroad including Spain, Italy, Germany, Belgium, Switzerland, Austria, Czechoslovakia, Eastern Russia, Scandinavia, Canada and the U.S.A. Lhomme (1935, *Cat. Lep. de France et de Belgique*, 2:22) gives its status in France and Belgium as "Toujours rare". The larva is stated to feed on currant and gooseberry, eating the leaves, flowers and fruits from June to October, and the moth to be found in March and April. — J. ROCHE, 2 Longtye Drive, Chestfield, Whitstable, Kent. [We are indebted to Mr. E. S. Bradford for a photo of Mr. Roche's specimen, from which the accompanying figure was taken. — EDITOR].

UNIVOLTINE AND BIVOLTINE RACES OF POLYOMMATUS ICARUS ROTT. — Now that it has been shown beyond all reasonable doubt through the painstaking work of Dr. O. Höegh-Guldberg and F. V. L. Jarvis, that the univoltine and bivoltine *Ariciae* are distinct species I wonder if any person, or group of people, with the necessary patience and expertise, will undertake similar work with *Polyommatus icarus*. Not that there is any likelihood of two species being involved in this case, but the situation is

sufficiently interesting to call for investigation. I have a feeling that it is often assumed that the Common Blue gradually becomes more and more single brooded as one goes further North until double broodedness finally gives way to single broodedness. But in my experience the situation is very difficult.

I have lived in what is now Cumbria since 1938 and consequently have had many opportunities of observing this species locally. I have found that the bivoltine and univoltine races meet in the area between Carlisle and Carnforth but are almost, though not quite, out of contact with one another. The bivoltine race flies along the coast, and specimens are morphologically identical with the bivoltine populations further South. The univoltine race occurs further inland, particularly on carboniferous limestone hills, and is in outward appearance identical with the univoltine populations of Scotland, where I am particularly well acquainted with the species in the Inner Hebrides, for instance, Mull and Skye, and the smaller Islands such as Iona, Staffa and Muck, as well as the adjacent area of the mainland.

It is not easy to describe accurately the visible differences between the bivoltine and univoltine races — in any case the species is a very variable one — but certain features tend to stand out and indicate to a trained eye to which race a specimen belongs. For instance, the univoltines are larger than the bivoltines; the underside of the male is paler dove grey without much trace of the leaden tint that so often characterises the bivoltines; the underside spotting in the univoltines is less conspicuous and often reduced; the lunules tend to be more reddish in tint rather than orange. The upperside of the females is in most cases much bluer, and the reddish lunules much more prominent on both surfaces, in the univoltines. I have my series from my collection in front of me as I write these notes, and I realise that there are many exceptions, but in the main the above characters hold good and are reasonably consistent. Suffice it to say that the two races in general look distinct and do not merge imperceptibly into one another.

To return to Cumbria, the bivoltines along the coast fly from mid-May (later in cold Springs) to mid-June, and again from early August to early September. In size there is little difference between the two broods, either in individual specimens or in larval numbers. There is no perceptible seasonal variation. The univoltines emerge in mid-June and fly through July. In rather elevated colonies such as that at Smardale near Kirkby Stephan worn specimens sometimes last until early August. So the emergence period of the two races does not overlap even though not many miles may separate one population from the other. But there are one or two interesting situations. For instance, on Warton Crag near Carnforth, incidentally just over the boundary into Lancashire, though geologically and ecologically part of the limestone country around the head of More-

combe Bay which is otherwise in Cumbria, a typical univoltine race of large individuals flies from mid-June through July, but at least in warm summers a very limited emergence of much smaller individuals appears at the end of August and the beginning of September. This may also occur occasionally on other adjacent limestone hills, but while I was Vicar of Hutton Roof from 1951-1962 I never saw a specimen on Hutton Roof Crag which could be assigned to a second brood. Only about 8 miles further inland from Warton Crag the species was apparently strictly univoltine. Conversely, at Grune Point north of Silloth where there is the usual coastal bivoltine race I have on rare occasions seen one or two large specimens in July which would from the time of emergence and from their appearance seem to be individuals of an univoltine race.

The whole question seems to be an intriguing one. The two races appear to have mixed in just one or two places, but normally they cannot do so because of the different times of emergence. And their appearance remains distinct. If in captivity specimens of the bivoltine race were artificially induced to emerge later than in the wild so that they could be paired with univoltines, would there be any sign of incipient genetic imbalance such as that which conclusively separated the two *Ariciae*? — The Reverend J. H. VINE HALL, 3 The Green, Melmerby, Penrith, Cumbria CA101HE.

PHYLLONORYCTER CORYLIFOLIELLA HBN. F. BETULAE Z.: NEW TO ESSEX. — During October 1983, Mr. C. Smith and I discovered the mines of *Phyllonorycter corylifoliella* f. *betulae* on the upper surfaces of several leaves on a single sapling silver birch tree (*Betula pendula*) at St. Mary Magdalene Churchyard, Museum Nature Reserve, East Ham, Essex, (grid ref.: TQ 4282). This identification was subsequently confirmed by Maitland Emmet to whom I am most grateful. Form *betulae* has a northern and western distribution in Britain, and because of this apparent geographical restriction, coupled with the fact that it is univoltine (the typical form being bivoltine), some entomologists regard it as a distinct species. Two tenanted mines were collected and freeze-dried for this Museum's collections. It will be most interesting to see whether this moth manages to spread to the only other silver birch tree at the Nature Reserve — that which was planted by Her Majesty The Queen to commemorate her visit here on 14th December, 1983! — C. W. PLANT, Assistant Curator, Natural Sciences (Biology), Passmore Edwards Museum, Romford Road, Stratford, London E15 4LZ.

PINE LADYBIRDS ON A LIME TREE. — While visiting the open parkland of Bromley Library Gardens on 23 October 1983, I was surprised to find a lime tree attracting a number of ladybird species, two of which are normally associated with pine trees.

Since it was first discovered in this country by Morley in 1939 (Morley, *Trans. Suff. Nat. Soc.* (1941), 4: 247-248), *Harmonia quadripunctata* Pontoppidan has spread throughout England and is